TETRA TECH EM INC.

August 16, 2006

Mr. Kevin Turner
Environmental Scientist, On-Scene Coordinator
Emergency Response Branch
United States Environmental Protection Agency Region 5
C/O Crab Orchard National Wildlife Refuge
8588 Route 148
Marion, IL 62959

Subject: **Site Assessment Report**
Minton Enterprises, 5 West Monroe Street, Highland, Illinois
Technical Direction Document No. S05-0603-007
GSA Contract No. GS-10F-0076K

Dear Mr. Turner:

Tetra Tech EM Inc. is submitting the attached site assessment report for the Minton Enterprises site assessment in Highland, Illinois. If you have any questions or comments, please contact me at (314) 892-6322 ext. 25, or Therese Gioia at (312) 201-7431.

Sincerely,

Tom Binz
START Project Manager

Enclosures

Cc: Lorraine Kosik, U.S. EPA START Project Officer
Therese Gioia, Tetra Tech START Program Manager

11116 South Towne Square, Suite 303, St. Louis, MO 63123
Tel 314.892.6322 Fax 314.892.6132
www.ttemi.com

SITE ASSESSMENT REPORT
MINTON ENTERPRISES SITE
HIGHLAND, MADISON COUNTY, ILLINOIS

TETRA TECH EM INC.

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 5 Emergency Response Branch
77 West Jackson Boulevard
Chicago, IL 60604

Date Prepared:	August 16, 2006
TDD No.:	S05-0603-007
Contract No.:	GS-10F-0076K
Prepared by:	Tetra Tech EM Inc.
Tetra Tech START Project Mgr.:	Thomas Binz
Telephone No.:	(314) 892-6322 ext. 25
U.S. EPA On-Scene Coordinator:	Kevin Turner
Telephone No.:	(618) 997-0115

CONTENTS

Appendices

1.0 INTRODUCTION

In accordance with Technical Direction Document (TDD) S05-0603-007, the Tetra Tech EM, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) prepared this site assessment report to document environmental sampling activities conducted at the former Minton Enterprises (ME) "Site" at 5 West Monroe Street, Highland, Madison County, Illinois. The objectives of the site assessment activities were to (1) prepare and implement a health and safety plan (2) conduct a site reconnaissance; (3) collect samples; (4) document on-site activities; (5) evaluate potential threats to human health and the environment; and (6) prepare a report detailing environmental sampling results.

The site assessment was performed in accordance with the National Contingency Plan (NCP) in the *Code of Federal Regulation* (CFR) Section 300.415, to evaluate on-site conditions and possible threats to human health, welfare, and the environment.

Thomas Binz was the START Project Manager for the site assessment activities. The U. S. Environmental Protection Agency (U.S. EPA) Region 5 On-Scene Coordinator (OSC) for the project was Kevin Turner.

The two acre site is located at 5 West Monroe Street, Highland, Madison County, Illinois (Appendix A, Figure 1). The site is located at the west side of Highland and is situated in a primarily commercial and industrial area. However, there are a few residences in close proximity. The property is comprised of two buildings. This includes a main plating building and an outside waste storage area building.

2.0 SITE BACKGROUND

According to Mike Grant, of Illinois Environmental Protection Agency (IEPA), on February 22, 2006, the IEPA representatives, Mike Grant and Tom Miller inspected the ME site at the request of Highland city officials. The ME site conducted black oxide plating, yellow chromate plating, zinc plating, and phosphate plating services. The city of Highland was aware that local operations had ceased several months prior. During the inspection, IEPA revealed that the site is comprised of two buildings. The two buildings include a main plating building and outside storage warehouse.

At that time, IEPA noted the outside storage warehouse which is separated into three bays. The outside storage warehouse bays contained no doors and are open to the environment on the east side. IEPA estimated approximately 150 55-gallon drums, stacked two high, currently stored in the three bays. According to the IEPA, most of the drums appeared to be full. IEPA examined some of the labels on the drums which read phosphoric acid, chromic acid, nitric acid, and sodium hydrosulfite. One of the drums located at ground level and easily accessible was left open, so IEPA took a pH reading using litmus paper. The pH obtained by IEPA was 0-1 and the drum was labeled phosphoric acid.

IEPA also inspected the main plating building. Upon entering the building, IEPA observed the large room located on the northwestern side of the building. According to the site diagram obtained by the IEPA representatives, this area was for packaging and shipping. In the northern portion of the building there were approximately 18 drums present in northwest corner, 20 against the northern wall, and 10 near the middle. All of the drums appeared to be full. Two plating lines were also observed. The plating baths were found to be full of solution. Because the plating baths are not covered, the IEPA believes that the site poses an immediate health threat to anyone entering the site. A third plating line was no longer in service and appeared to be dismantled.

On March 2, 2006, for the concern of the community of Highland, IEPA Director Doug Scott issued an order to seal the property. Thus the ME site was sealed from public access due to health and safety concerns from stored and abandoned ME un-permitted hazardous materials found on February 22, 2006.

On March 3, the IEPA requested assistance from the U.S. EPA. These actions were taken as a result of the February 22, 2006, inspection that identified several hundred containers and plating systems process vessels full of chemicals and the fact that the entire plating operations were abandoned.

On April 5, 2006, IEPA representative Mike Grant met with Madison County Assistant States Attorney Phil Alfeld at the Madison County court house. The purpose of this meeting was to request the issuance of an Administrative Search Warrant for the ME site. As a result of the IEPA request, Mr. Alfeld prepared a Complaint for Administrative Search Warrant for the IEPA. The Administrative Search Warrant was ultimately signed by Judge Mendelssohn and filed with the Madison County Circuit Clerk's Office.

In order to initiate the site assessment, the Administrative Search Warrant was delivered by the IEPA at the ME site on April 6, 2006. The purpose of the site assessment was to perform site reconnaissance; map key site features and locations of site building structures; collect samples from drums and containers; and estimate the number of drums, vats, and containers stored inside and outside the ME site.

3.0 SITE ASSESSMENT ACTIVITIES

On April 6, 2006, U.S. EPA, OSC Kevin Turner and START members Tom Binz and Doug Ball arrived at the site to conduct the site assessment activities. Three IEPA representatives, Mike Grant, Jerry Willman and Tom Miller were also present. The site assessment activities consisted of performing site reconnaissance; mapping of key site features and locations of site structures; collect samples from drums, vats, and containers; and estimate the number of drums, vats, and containers stored inside and outside ME site buildings. The specific site assessment observations and activities are detailed below. Appendix B contains photographic log taken during the site assessment activities. Each activity is discussed below.

3.1 SITE RECONNAISSANCE

U.S. EPA, IEPA and START conducted field activities at the ME site on April 6, 2006. After a health and safety meeting, a site reconnaissance was conducted to identify sampling locations. Because of the extensive amount of drums and containers observed in both buildings during the site reconnaissance, U.S. EPA, OSC Turner organized the on-site members into two teams. Appendix A, Figure 2 depicts the site feature and layout. Figure 3 depicts the locations of drums in the outside waste storage area building, offices, waste treatment and plating lines.

The main plating building assessment team consisted of START member Tom Binz and IEPA representative Jerry Willman. The outside waste storage area building assessment team consisted of START member Doug Ball and IEPA representative Tom Miller. IEPA representative Mike Grant took site photographs and field notes for both teams. OSC Turner met with Highland city officials and members of the local media.

START observed a multitude of 55-gallon drums and assorted smaller containers located throughout the ME site. Most of the drums appeared to be full with many drums content residuals remaining on the exterior of the drum. In the main plating building adjacent to the plating line dip vats and tanks, spillage and drip residuals coat the sides of the vat and floors near the dip tanks. START also observed standing water in the truck loading/unloading dock area on the west side of the main plating building.

The one story main plating building was in good condition, had operational locks but lacked electricity. The front (southwest corner) of the building contains two offices and a small kitchen. Items with descriptive labels in the kitchen area were inventoried and included: one one-gallon container of silver

nitrate, two one-gallon containers of hydrochloric acid, two one-gallon containers of sodium hydroxide, one one-gallon container of potassium permanganate, one one-gallon container of ammonium hydroxide, and one one-gallon container of bleach.

Adjacent to the offices and kitchen area is a portion of the main plating building that contains the facility's water treatment process which had two 200-gallon vats located between the offices and main plating building (Appendix A, Figure 3). The vats were labeled Vat 1 and Vat 2 and are full of filtered solids. Mike Grant indicated that ME operations had a waste water discharge permit related to the on-site management of process waste water. Items inventoried in the water treatment area included: one 55-gallon drum of sodium hydroxide, one 55-gallon drum of galvanic brightener, one 55-gallon drum of filter solids, and eight one-gallon paint buckets. All of the drums were full.

The middle of the main plating building is where plating operations took place. The plating operations area contained three plating lines marked Line 2, Line 3, and Line 4. Line 2 and 4 were located next to each other on the west wall and line 3 was located near the east wall, as indicated in Appendix A, Figure 3. Line 2 and 4 contained plating baths and remnant cleanings acid, water rinse and plating liquid residuals. Residue stains from past plating operations were observed on the floors and walls near the plating baths. Items inventoried in the production area included: three 55-gallon drums of Oxalic 295, 19 55-gallon drums of sodium hydroxide, three 55-gallon drums of sodium hydrosulfite, one 55-gallon drum of ammonium, 38 55-gallon drums of unknown liquids, seven 55-gallon drums of hydrogen peroxide, one 30-gallon drum of hydrogen peroxide, and three 5-gallon containers of hydrogen peroxide. Some of the 55-gallon drums were stacked two high. Most of the drums appeared to be full.

The outside waste storage area building is separated into three bays. The outside waste storage area building bays contained no doors and was open to the environment on the east side. The bays contained approximately 150 drums which were filled with acids such as phosphoric, nitric and chromic. One container was labeled sodium hydrosulfite, which is a spontaneously combustible chemical. One drum contained phosphoric acid, which is highly corrosive. The drums could not be inventoried because they were stacked and access was impossible. Outside and scattered in front of the outside storage warehouse were discarded pieces of plating equipment, empty drums, and a variety of vats and assorted containers. After sampling some of the containers stored in the outside storage warehouse were completed, OSC Turner instructed START to place and move any drum which remained outdoors and unsecured, to be placed inside the storage building to prevent the drums from further deterioration by weather. OSC

Turner further instructed START to securely fasten a chain link fence two rows high for temporary drum storage security purposes.

3.2 SAMPLING ACTIVITIES

To evaluate whether the ME site posed a threat to human health or the environment, START, IEPA, and OSC Turner conducted site reconnaissance as to the number of drums, vats, and containers stored inside and outside ME site buildings and identified eleven sample locations from unlabeled drums and plating vats. Any drums that contained any identification markings on them were not sampled, and only three plating bath samples were to be collected as directed by OSC Turner. Sample locations are provided in Appendix A, Figure 3 – Site Description and Sample Location map.

3.2.1 Drum Sampling

There were eight samples collected from unmarked 55-gallon drums at the ME site. Three drum samples were collected from the outside storage area and were given the sample identification X-201, X-202 and X-203. The other five drum samples were collected from inside the building were given the sample identifications of X-206, X-207, X-208, X-209 and X-210. Sampling locations are identified in Appendix A, Figure 3.

Samples X-201, X-202, X-203, X-206, X-207, and X-210 were liquid samples. The liquid samples were collected by using dedicated drum thieves. Samples X-208 and X-209 were solid samples collected with dedicated scoops. The samples were placed into dedicated sampling containers provided by the laboratory. All the samples were labeled, preserved, and placed in a cooler filled with ice immediately after sample collection.

3.2.2 Plating Baths

There were three samples collected from the plating baths located in the main plating building. Two were grab samples taken from line 2 which were identified as X-204 and X-211 and another grab sample was taken from line 4 and identified as X-205. Sampling locations are identified in Appendix A, Figure 3. Samples X-204 and X-205 were a liquid samples and were collected by using dedicated drum thieves. A solid sample labels as X-211 was collected with a dedicated scoop. The samples were placed in their

dedicated sampling containers provided by the laboratory. All the samples were labeled, preserved, and placed in a cooler filled with ice immediately after sample collection.

4.0 ANALYTICAL RESULTS

START collected eleven samples at the ME site. The eleven samples consisted of eight liquid samples and three solid samples. The samples were analyzed by Teklab, Inc., in Collinsville, Illinois, under analytical TDD No. S05-0603-008. Analytical parameters were chosen based on the criteria for identification of hazardous waste set forth in 40 CFR Part 261. The analytical results for the samples are displayed in Appendix C. The sample results were compared to the following criteria:

- 40 CFR Part 261.21 Characteristics of Ignitability;
- 40 CFR Part 261.22 Characteristics of Corrosivity;
- 40 CFR Part 261.23 Characteristics of Reactivity;
- 40 CFR Part 261.24 Characteristics of Toxicity.

4.1 CHARACTERISTICS OF IGNITABLITY

Sample X-201 was the only sample analyzed for ignitability. According to 40 CFR Section 261.21 (a) (1), a flash point less than or equal to 140 degrees Fahrenheit (F) is the temperature at which a substance is considered to be hazardous by virtue of ignitability. The results were >200 degrees Fahrenheit, therefore the sample is not considered hazardous by virtue of ignitability.

4.2 CHARACTERISTICS OF CORROSIVITY

All the samples were analyzed for characteristics of corrosivity. The results were compared to the characteristics of corrosivity provided in 40 CFR Section 261.22 (a) (1). This section of the regulation states if the pH is less than or equal to 2.0 or greater than or equal to 12.5, the substance is considered to be hazardous by virtue of corrosivity. The pH result for X-202 was 1.15 and X-207, X-208, X-209, and X-210 results were between12.6 and 14.5. All of the aforementioned sample identification numbers yielded laboratory results that exhibited characteristics of corrosivity. Results are indicated in the tables attached to Appendix C.

4.3 CHARACTERISTICS OF REACTIVITY

Samples X-201, X-202, X-203, X-208, X-209, and X-210 were analyzed for cyanide. 40 CFR Section 261.23 (a) (5) states that if a solid waste is a cyanide or sulfide-bearing waste that, when exposed to pH

conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment, the waste exhibits the characteristics of reactivity. All of the samples analyzed for cyanide contained detectable levels of cyanide. Therefore, toxic gases may be generated when the material is exposed to pH conditions between 2 and 12.5, and the material may exhibit the characteristics of reactivity.

4.4 TOTAL METALS AND HEXAVALENT CHROMIUM ANALYSIS

All eleven samples were collected and analyzed for total metals. Appendix C contains the analytical results for those samples. Samples were not analyzed for toxicity characteristic leaching procedure (TCLP) parameters; however, a waste sample concentration of a metal greater than 20 times the TCLP standard could indicate the waste's potential to leach that metal. Based on this assumption, a total hexavalent chromium or lead concentration greater than 100 milligrams per liter (mg/L) in a waste sample would indicate the waste's potential to leach the metal. The concentrations of total chromium in waste samples X-205 was greater than 100 mg/L, indicating the potential of the waste to leach total chromium. Several metals were detected at various concentrations in the samples. The most significant was the total metal result for chromium in sample X-205 at 1,990 mg/L, and the results exceeded the greater than 20 times the TCLP standard of 100 mg/L as related to the 5.0 mg/L Maximum Concentration of Contaminants for the Toxicity Characteristic of 40 CFR 261.24 Toxicity characteristic.

Conditions present on the ME site warrant an appropriate removal action as set forth in paragraph (b) (2) of 40 CFR Part 300.415 of the National Oil and Hazardous Waste Substances Pollution Contingency Plan (NCP) and include the following:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.

While conducting the site assessment START observed easy access to the two buildings located on the ME site. The ease of getting inside the buildings could potentially expose persons to caustic solutions and toxic plating waste. There are numerous drums and smaller containers with labels that indicated toxic, combustible, and flammable substances located throughout the ME site. An unintentional or deliberate release of these substances would immediately expose the trespasser and could perhaps impact nearby human population and surrounding site soils.

The outside storage warehouse is separated into three bays and is not insulated. The bays contain no doors and are open to the environment on the east side. It was estimated approximately 150 55-gallon drums are stored in the bays. Most of the drums appeared to be full. Some of the labels on the drums were examined and the labels indicated the drums contained phosphoric acid, chromic acid, nitric acid, and sodium hydrosulfite. The drums were loosely stacked two high, and if strong winds gust inside this outside storage warehouse, the wind may perhaps agitate or knock the drums down. In addition, drums exposed to the weather and subject to freezing and thawing conditions could further deteriorate the containers and cause a release.

The main plating building contained plating dip tanks with residual plating liquids and residues left from past plating operations in the main plating building (Appendix A, Figure 3). There were stains discovered on the sides of the plating vats and dip tanks, on drums and on the floor near the plating line. The liquid sample obtained from plating Line 2, sample identified as X-205, had chromium result at 1,990 (mg/L) and hexavalent chromium at 1,580 (mg/L). If liquid containing hexavalent chromium would possibly spill onto the surrounding soil, it could contaminate the surrounding soil at the ME site.

Chromium and hexavalent chromium are hazardous substances present in the tanks for all plating lines. Inhalation of chromium is the most common exposure route. The ATSDR "Toxicological Profile for Chromium" indicates that inhalation of hexavalent chromium at high levels (greater than 2 micrograms

per cubic meter [$\mu g/m^3$]) can irritate the nose and cause symptoms such as runny nose, sneezing, itching, nose-bleeds, ulcers, and holes in the nasal septum. Hexavalent chromium is a carcinogen and has been associated with increased lung cancer rates observed in workers exposed to high levels in workplace air.

Exposure pathways include (1) direct contact with drums and plating vats located at the ME site, (2) inhalation of vapors and dust, and (3) the drums located in the outside storage warehouse could expose and impact soils and surface water surrounding the ME site if a release were to occur.

The presence of characteristic hazardous waste with corrosive characteristics inside the sampled vats, containers, and drums coupled with the lack of sufficient site security controls to the drums in the outside storage warehouse, may pose a significant threat to human health and the environment.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.

There are numerous drums and smaller containers with labels that indicated toxic, combustible, and flammable substances located throughout the ME site. If any of theses substances were mixed there could be severe reactions. For example, if sodium hydrosulfite would mix with any of the mineral acids, an exothermic reaction may occur causing a potential fire and/or explosion. If a release were to happen from inside the outside storage warehouse there are no proper barriers to contain the liquids or vapors from escaping into the buildings or surrounding commercial and residential areas.

Hazardous wastes were observed stored in open vats and open drums in both the main plating building and the outside storage warehouse. Materials in these containers could easily be released by deterioration of the containers or accidentally or purposely spilled by a trespasser.

The site assessment team observed an open container of sodium hydrosulfite which is a known combustible solid. When sodium hydrosulfite comes into contact with moisture or water it may ignite and further posing a threat of release from the site.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

Several 55-gallon drums of sodium hydrosulfite were observed in both of the buildings. Sodium hydrosulfite is flammable and is known to spontaneously ignite in moist air or upon contact with water. Seasonal excessive conditions, such as heavy rain or high humidity, may trigger the sodium hydrosulfite to ignite causing a release to the nearby residences and workers. In addition, the outside storage warehouse contains no door leaving the east side of the building totally exposed to weather conditions. The drums inside contain different chemicals and are loosely stacked two high. If strong winds gust inside this outside storage warehouse, the wind may perhaps agitate or knock the drums down and rupture them to cause a release. Furthermore, drums exposed to the weather causing freezing and thawing could deteriorate the drums.

Threat of fire or explosion.

Based on the labeling of various containers left on-site, there were liquids (i.e. solvents) on site that can be easily ignited. If a provided a source of ignition to these materials took place, a potential conflagration could easily occur on site.

The site assessment team observed several containers of sodium hydrosulfite which is a known combustible solid. When sodium hydrosulfite comes into contact with moisture or water it possibly will ignite. In addition, the drums were loosely stacked two high and if strong winds blow inside this storage building could agitate or knock the drums down. There would be severe reactions from mixing of the spilled contents. For example, if sodium hydrosulfite would mix with any of the mineral acids an exothermic reaction may occur causing and explosion.

The availability of other appropriate federal or state response mechanisms to respond to the release was considered.

IEPA officials gave full consideration to the appropriate disposal and management of site contaminants. After consideration was given to the overall impacts upon resources of the state, IEPA officials elected to refer the site to U. S. EPA.

6.0 SUMMARY

On April 6, 2006, U.S. EPA, OSC Kevin Turner and START members Tom Binz and Doug Ball and three IEPA representatives met at the ME site to conduct environmental site assessment activities. The site assessment activities consisted of performing site reconnaissance; mapping of key site features and locations of site structures; collect samples from drums, vats, and containers; and estimate the number of drums, vats, and containers stored inside and outside ME site buildings. OSC Turner and START observed a large quantity and variety of 55-gallon drums of plating wastes and assorted sized containers of miscellaneous hazardous materials. Most of the drums reside in an outside, open bay storage building. Many 55-gallon drums are in poor condition, contain contents that are caustic or acids and many with contents of spent chromium solutions. The Main Plating Building contains vats and dip tanks that contain acid cleaning bath and chromate plating solutions. Past operational procedures have resulted in plating waste materials to leak on to the floor.

Laboratory results indicate the likelihood that most of the drum contents are characteristically hazardous waste materials for either the characteristic of ignitability, corrosivity or toxicity (chromium).

Sample results from the site assessment indicate that hazardous waste inhabit the ME site. There are numerous drums and smaller containers with labels that indicated toxic, combustible, and flammable substances located throughout the two buildings. Five liquid samples taken demonstrate the characteristic of corrosivity. A plating vat sample X-205 contained hexavalent chromium as high as 1,580 (mg/L). Based on the complete site assessment, the ME site poses a significant threat to human health as defined under 40 CFR §300.415(b) (2) (i)-(viii):

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.
- Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.
- Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.
- Threat of fire or explosion.
- The availability of other appropriate federal or state response mechanisms to respond to the release was considered.

APPENDIX A

FIGURES

(Three Pages)

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

(14 Pages)

APPENDIX C

ANALYTICAL RESULTS TABLES

(11 Pages)

APPENDIX D

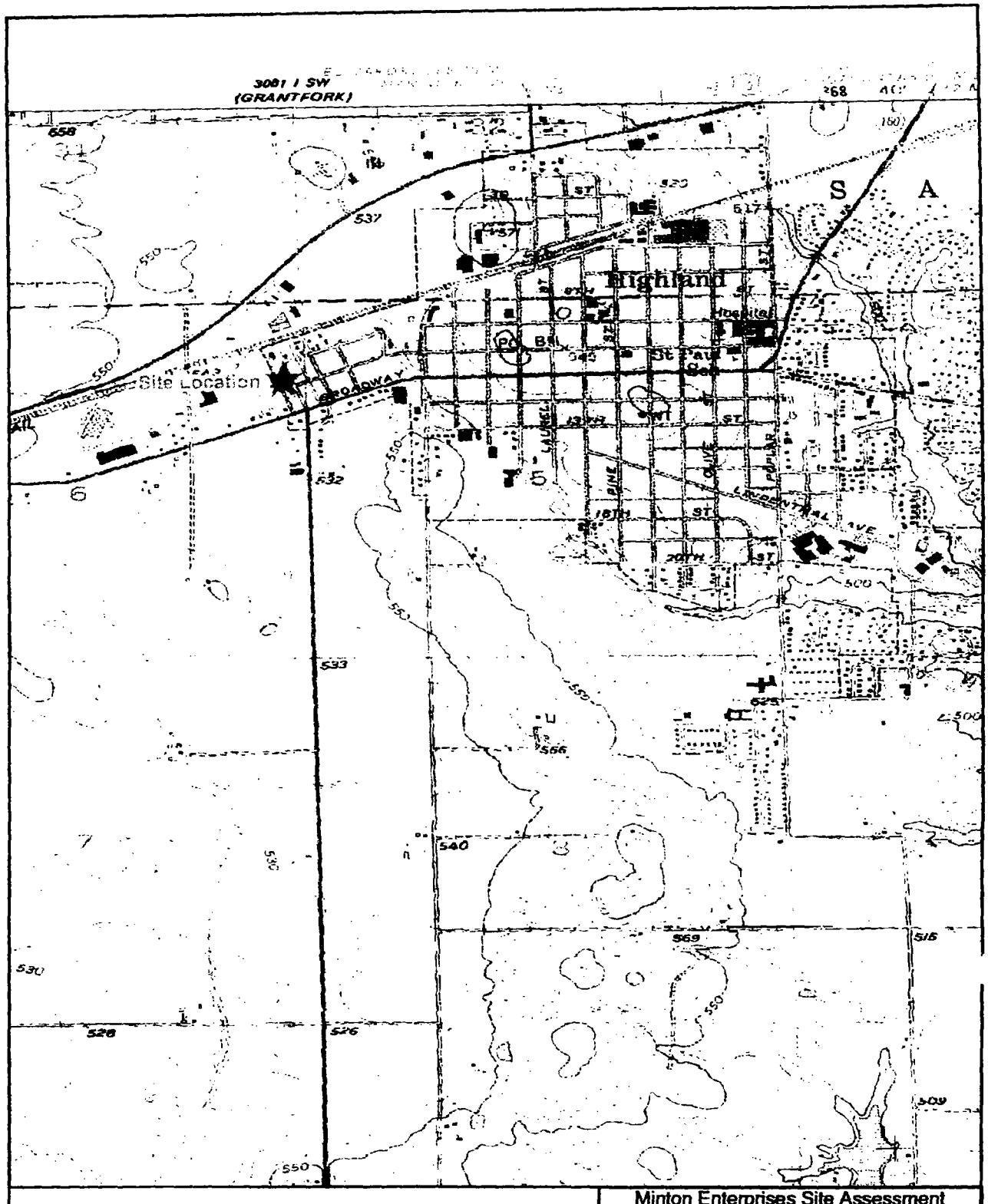
VALIDATED LABORATORY DATA PACKAGE

(22 Pages)

APPENDIX A

FIGURES

(Three Pages)



Minton Enterprises Site Assessment
5 West Monroe Street
Highland, Illinois

Figure 1
Site Location Map

TETRA TECH

Date: 07/21/08 Drawn By: Michelle Handley Project No: TDD805-0803-007

c:\start_figures\mxd\Figure1.mxd

N

100 0 100 200

Feet

Source: USGS Highland, IL DOQQ

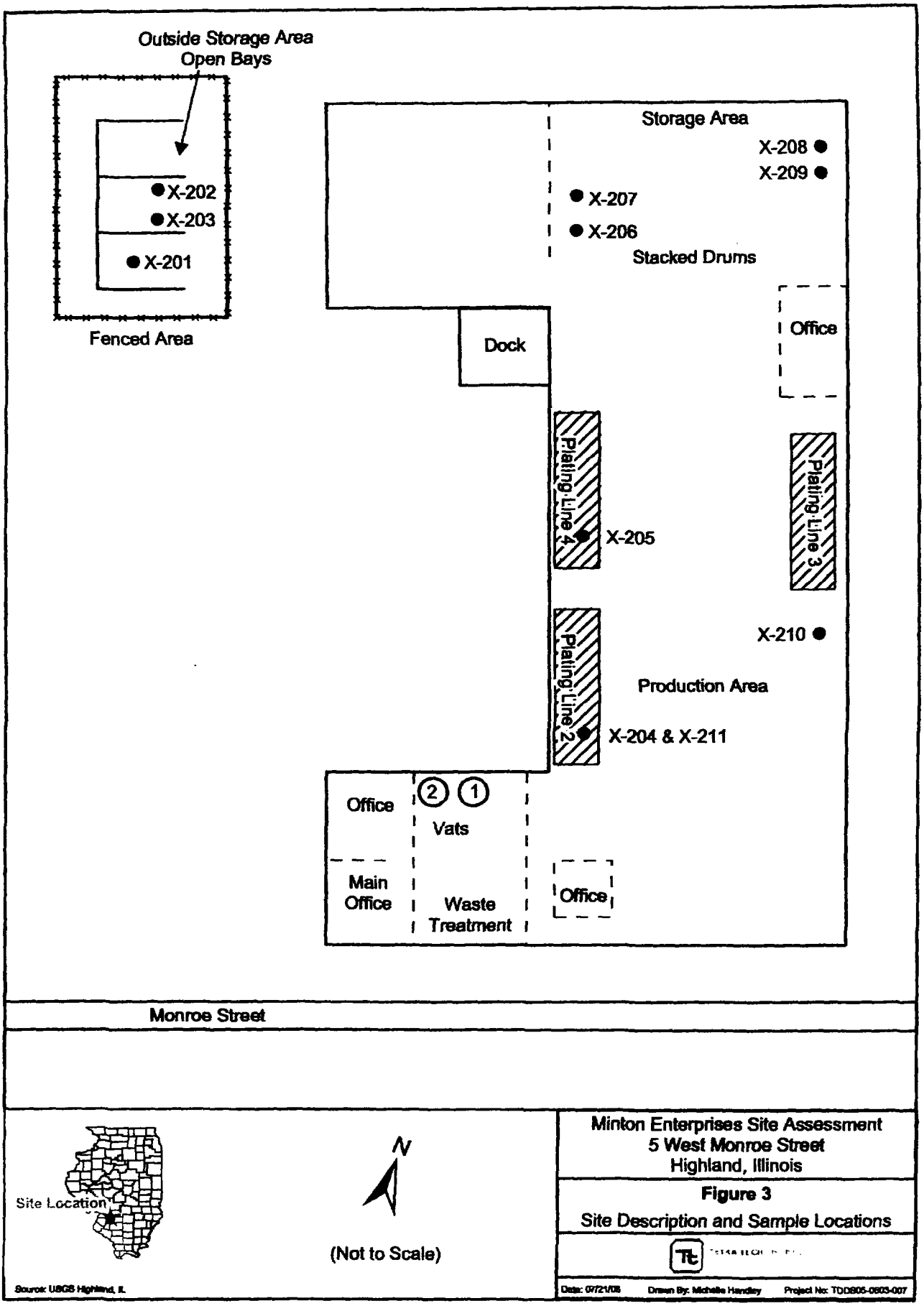
Minton Enterprises Site Assessment
5 West Monroe Street
Highland, Illinois

Figure 2

Site Layout Map

Date: 07/21/06 Drawn By: Michelle Handley Project No: TDOS05-0603-007

c:\mtn_figures\highs6\Figure2.mxd

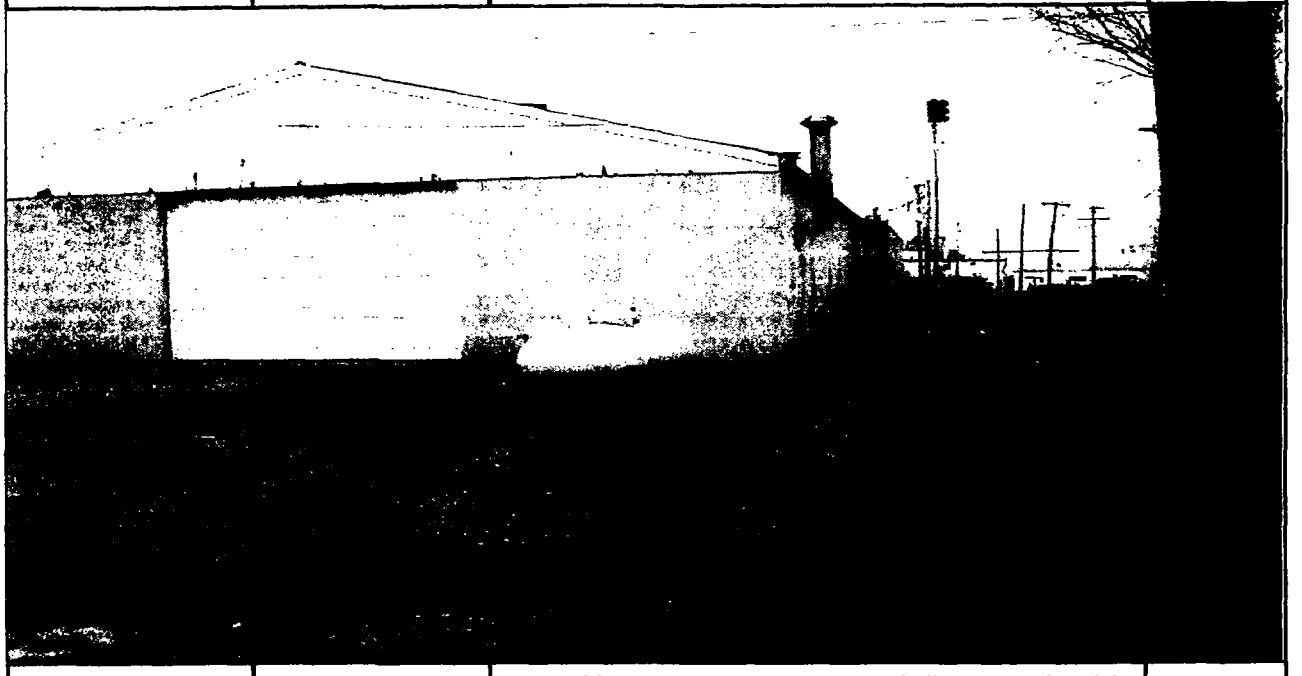

Outside Storage Area
Open Bays
X-202
X-203
X-201
Fenced Area
Storage Area
X-208
X-209
X-207
X-206
Stacked Drums
Office
Dock
Plating Line 4
X-205
Plating Line 3
X-210
Plating Line 2
Production Area
X-204 & X-211
Office
2
1
Vats
Main Office
Waste Treatment
Office
Monroe Street
Site Location
N
(Not to Scale)
Source: USGS Highland, IL
Minton Enterprises Site Assessment
5 West Monroe Street
Highland, Illinois
Figure 3
Site Description and Sample Locations
Date: 07/21/08
Drawn By: Michelle Handley
Project No: TDD805-0603-007

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

(14 Pages)

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	View of front of the Minton Enterprises facility. Monroe Street in foreground.	1
	CLIENT	U.S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Tom Binz	4/6/2006



TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	View of front of the Minton Enterprises facility near residential homes. Deal Street is on the right-hand side of the picture.	2
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Tom Binz	4/6/2006

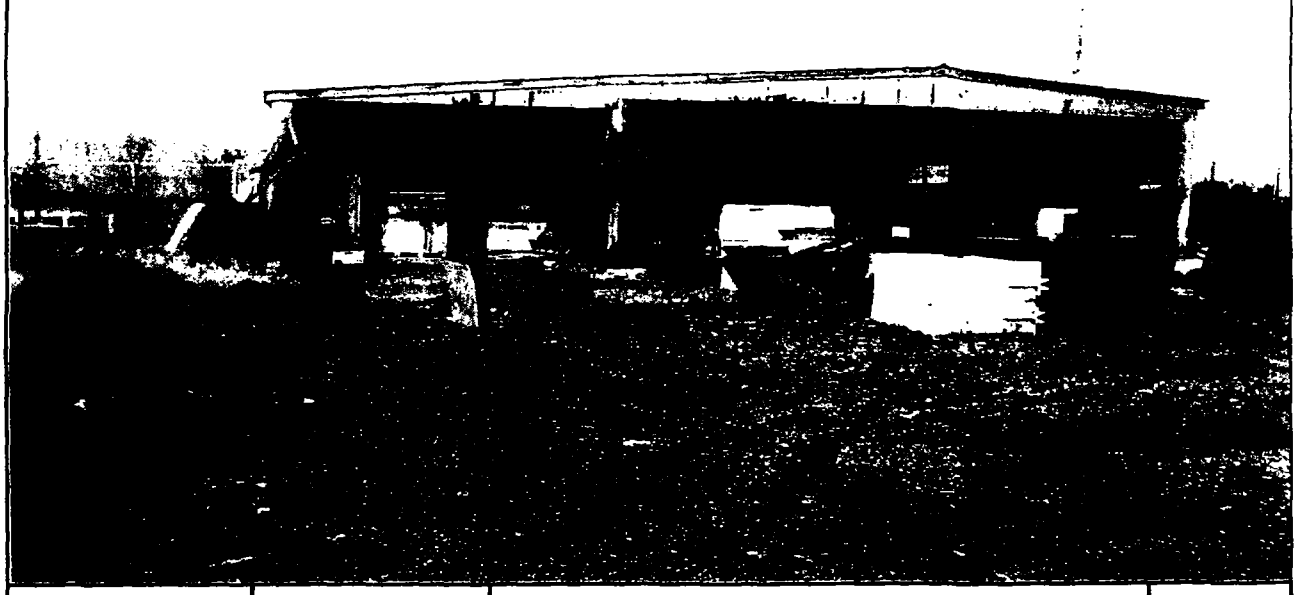
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	The two offices located on the west end of the Main Plating Building. Standing on Monroe Street.	3
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Tom Binz	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Western side of the facility.	4
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Tom Binz	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Standing on Monroe St. and looking towards the east direction.	5
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: East	PHOTOGRAPHER	Tom Binz	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	West side of the Main Plating Building looking at the loading dock.	6
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: East	PHOTOGRAPHER	Tom Binz	4/6/2006

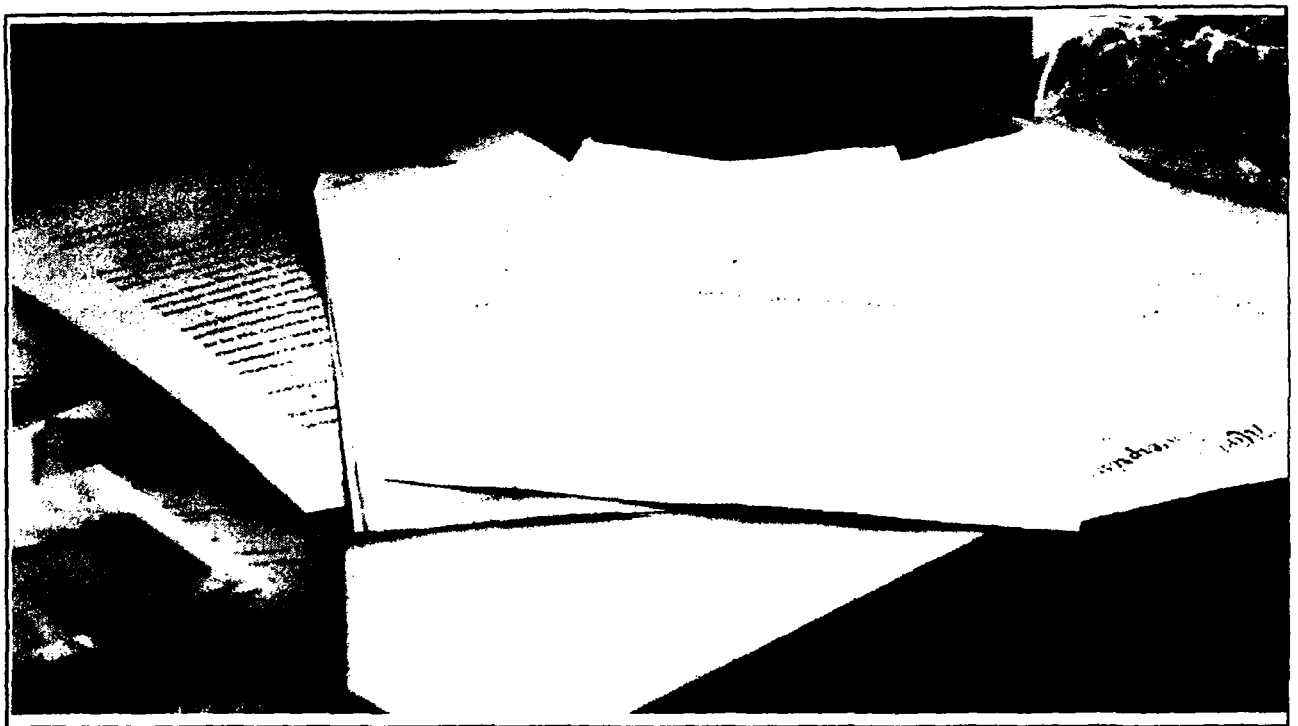
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	The outside storage area on the backside of the property. Drums and totes setting outside the building.	7
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Tom Binz	4/6/2006



TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	The outside storage area on the backside of the property. Open and unsecured bays containing drums of hazardous materials.	8
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Tom Binz	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Look at the front of the outside storage area. Totes, drums and plating equipment scattered around the area.	9
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Tom Binz	4/6/2006

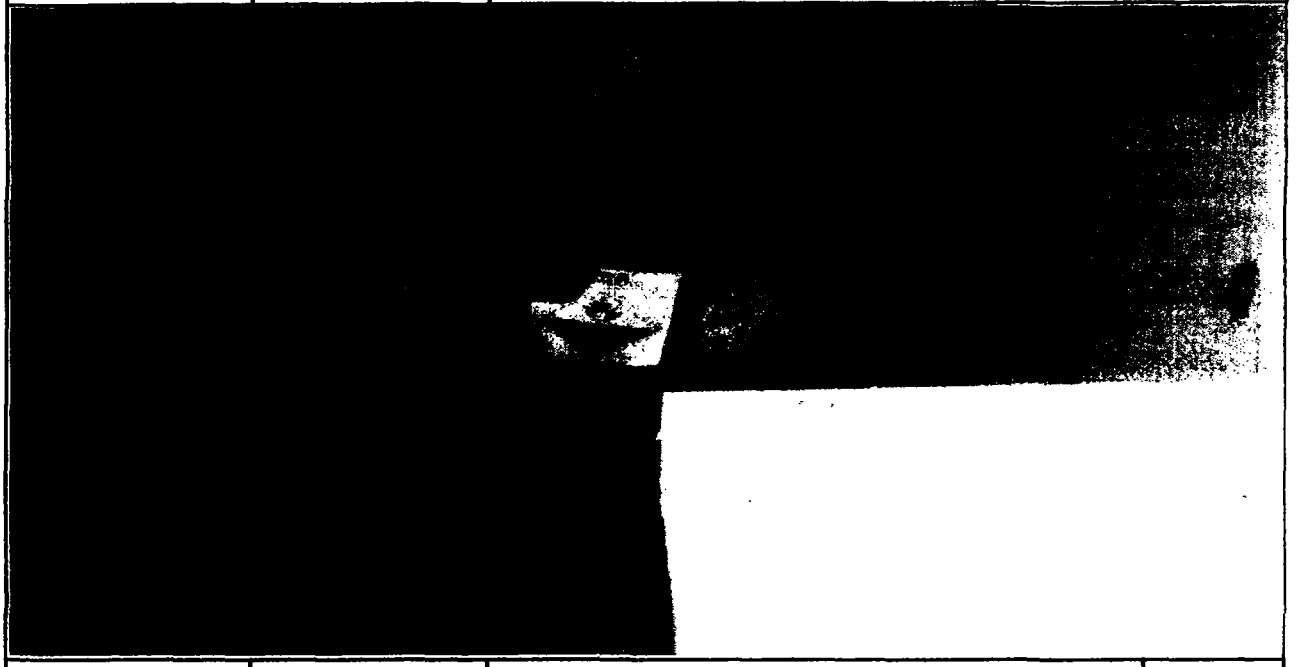
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Look at the front of the outside storage area. Totes, drums and equipment scattered around. Main building in background.	10
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: Northeast	PHOTOGRAPHER	Tom Binz	4/6/2006



TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Administrative search warrant delivered by IEPA to front office to inventory waste/chemicals remaining on site.	11
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: Down	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Vat #1 Located in the waste treatment area. Located in the front central portion of the building.	12
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Vat #2 Located in the waste treatment area. Located in the front central portion of the building.	13
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Michael Grant – IEPA	4/6/2006



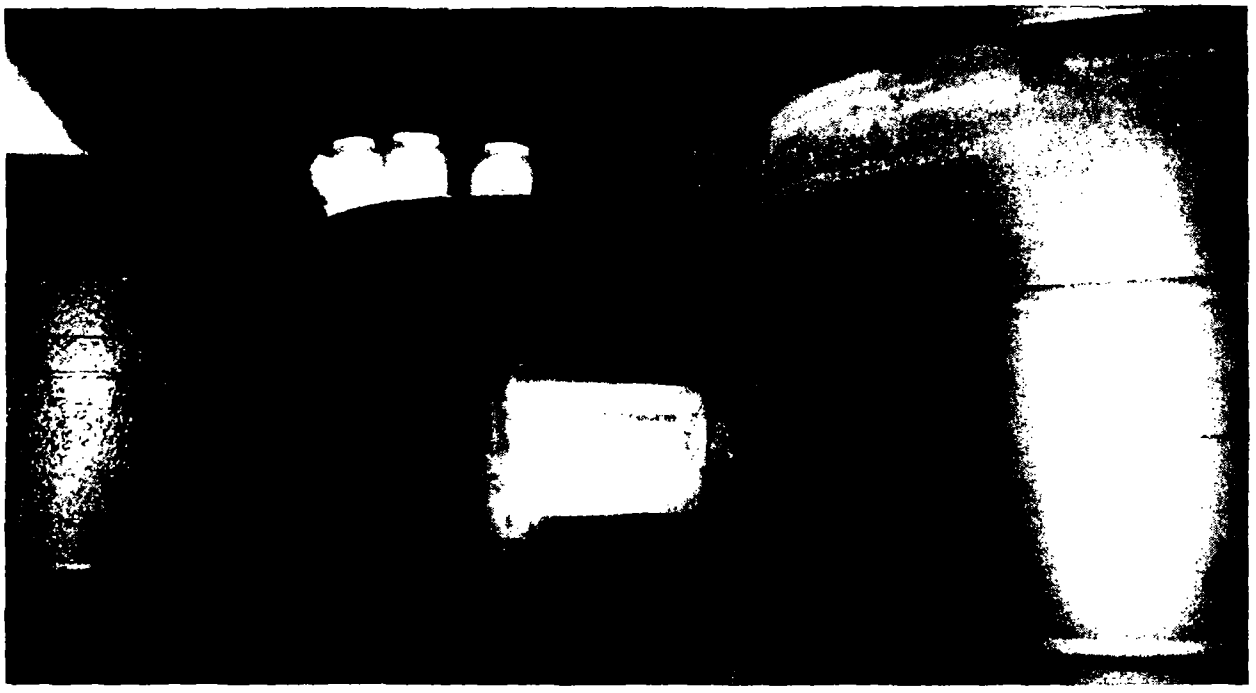
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	55-gallon drum containing Sodium Hydrosulfite located in the Main Plating Building.	14
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Michael Grant – IEPA	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Drums in storage area of Main Plating Building.	15
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Michael Grant – IEPA	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Drums setting in the storage area labeled corrosive.	16
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: Northeast	PHOTOGRAPHER	Michael Grant- IEPA	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Drums containing Sodium Hydrosulfide. Missing lid and residue all over the area located in the Main Plating Building.	17
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006

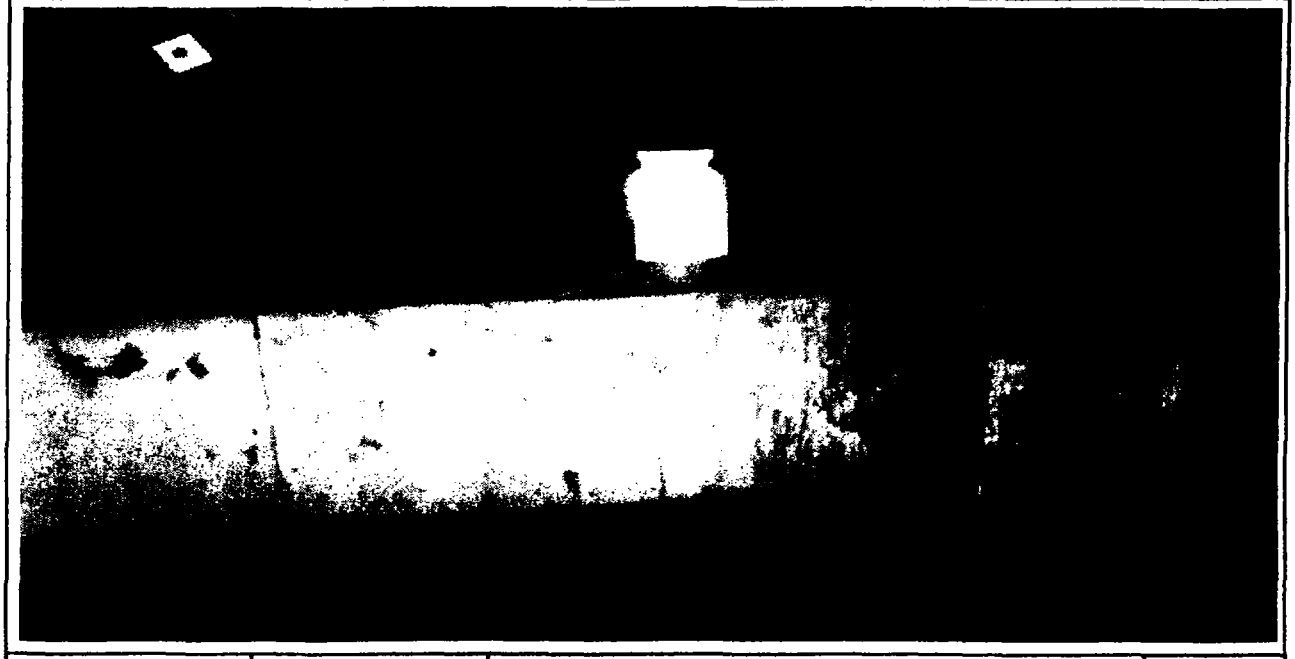
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Drums setting on the concrete floor in Main Plating Building.	18
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006



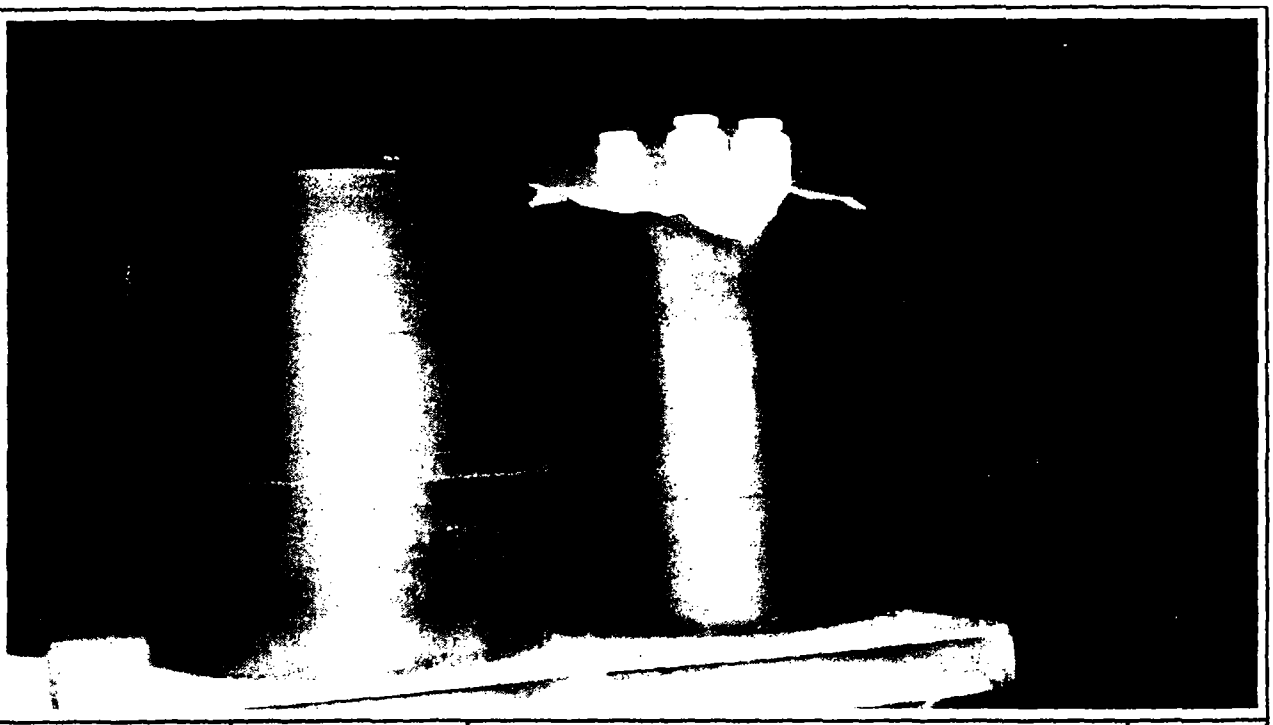
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Samples X-201, X-202, & X-203 on top of drum labeled Chromonic Hexavalent.	19
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: Northwest	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Looking at plating line #2 in background with sample # X-204	20
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006

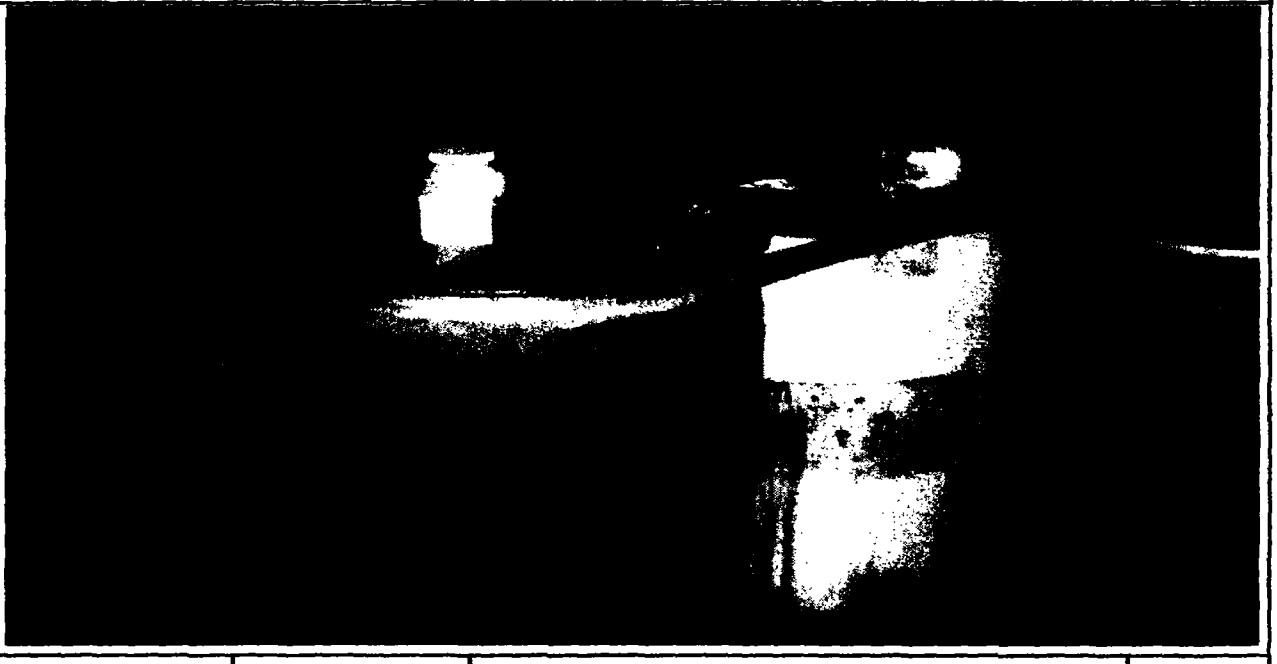
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Samples X-201, X-202, & X-203 on top of drum inside the storage building.	21
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006



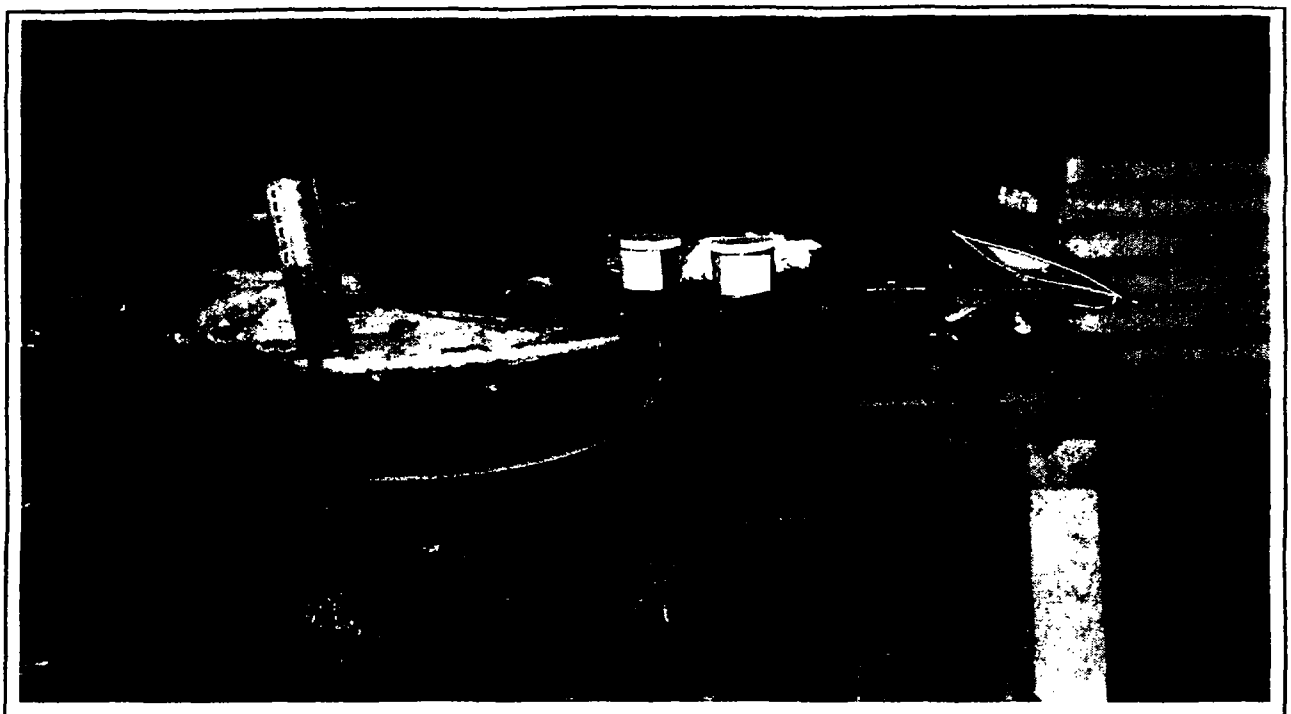
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Sample X-205 taken from plating line #4.	22
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006



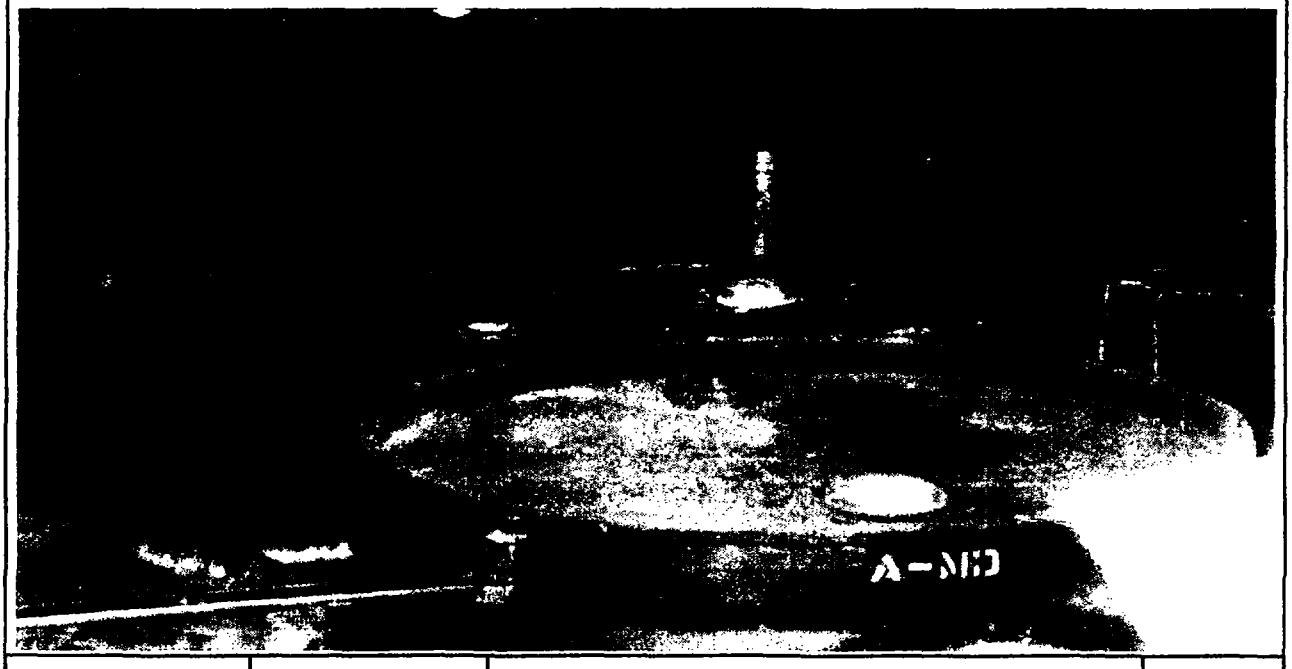
TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Drums located in the outside storage building with samples X-201, X-202, and X-203.	23
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006



TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Pictures of drums with sample X-206	24
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: Northwest	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006

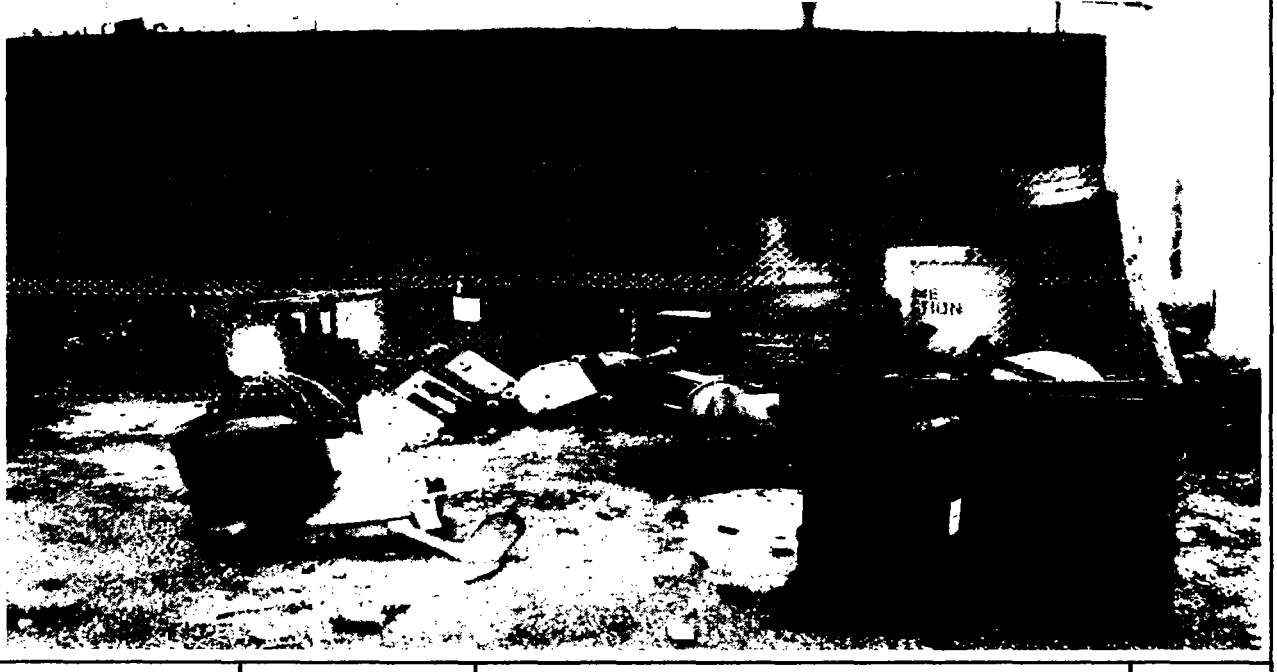


TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Sample X-208 and X-209 setting on top of drums.	25
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: North	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006



TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Sample X-210 setting on top of drum.	26
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: East	PHOTOGRAPHER	Michael Gant - IEPA	4/6/2006

TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Plating Line #4 with sample X-205. Residue on the floor in the area from past plating operations.	27
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006



TETRA TECH PROJECT NO. G9009L0603007	DESCRIPTION	Outside storage area with equipment a drums outside not sheltered but secured with cyclone fence.	28
	CLIENT	U. S. Environmental Protection Agency Region 5	Date
Direction: West	PHOTOGRAPHER	Michael Grant - IEPA	4/6/2006

APPENDIX C

ANALYTICAL RESULTS TABLES

(11 Pages)

Sample ID X-201 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	0.248	J
	Barium	100[a]	mg/L	2.44	J
	Cadmium	1.0[a]	mg/L	0.018	
	Chromium	5.0[a]	mg/L	0.473	
	Lead	5.0[a]	mg/L	0.347	J
	Selenium	1.0[a]	mg/L	<0.500	
	Silver	5.0[a]	mg/L	<0.100	
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.00160	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	4.80	J
EPA 600 335.2	Cyanide	Detect[d]	mg/L	0.024	J
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		10.5	
SW-846- 9040B	Ignitablity, Closed Cup	≤140°F[b]	°F	>200	

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-202 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0 [a]	mg/L	<0.125	UJ
	Barium	100[a]	mg/L	1.74	J
	Cadmium	1.0[a]	mg/L	0.110	
	Chromium	5.0[a]	mg/L	11.3	
	Lead	5.0[a]	mg/L	0.899	J
	Selenium	1.0[a]	mg/L	<1.25	
	Silver	5.0[a]	mg/L	0.12	U
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	1.50	J
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.00080	
EPA 600 335.2	Cyanide	Detect[d]	mg/L	0.137	J
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		1.15	J

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-203 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	<0.0250	UJ
	Barium	100[a]	mg/L	<0.0050	UJ
	Cadmium	1.0[a]	mg/L	0.0010	U
	Chromium	5.0[a]	mg/L	1.19	
	Lead	5.0[a]	mg/L	<0.0400	UJ
	Selenium	1.0[a]	mg/L	<0.100	
	Silver	5.0[a]	mg/L	<0.0200	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	<0.005	R
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	0.00044	
EPA 600 335.2	Cyanide	Detect[d]	mg/L	0.024	J
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		9.24	

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-204 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0 [a]	mg/L	0.030	J
	Barium	100[a]	mg/L	0.126	J
	Cadmium	1.0[a]	mg/L	<0.0080	
	Chromium	5.0[a]	mg/L	0.0976	
	Lead	5.0[a]	mg/L	0.187	J
	Selenium	1.0[a]	mg/L	<0.200	
	Silver	5.0[a]	mg/L	<0.0400	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	2.8	J
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.00160	
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		11.6	

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-205 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	<0.125	UJ
	Barium	100[a]	mg/L	0.0430	J
	Cadmium	1.0[a]	mg/L	0.0970	
	Chromium	5.0[a]	mg/L	1990	
	Lead	5.0[a]	mg/L	<0.400	UJ
	Selenium	1.0[a]	mg/L	<0.500	
	Silver	5.0[a]	mg/L	0.075	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	**1,580**	
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.00080	
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		4.15	

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-206 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	0.129	J
	Barium	100[a]	mg/L	232	J
	Cadmium	1.0[a]	mg/L	0.0220	
	Chromium	5.0[a]	mg/L	0.255	
	Lead	5.0[a]	mg/L	1.02	J
	Selenium	1.0[a]	mg/L	<0.500	
	Silver	5.0[a]	mg/L	<0.100	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	<10.0	R
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.00160	
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		7.95	

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-207 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0 [a]	mg/L	0.125	J
	Barium	100[a]	mg/L	0.0248	J
	Cadmium	1.0[a]	mg/L	<0.0080	
	Chromium	5.0[a]	mg/L	0.036	
	Lead	5.0[a]	mg/L	<0.0800	UJ
	Selenium	1.0[a]	mg/L	<0.200	
	Silver	5.0[a]	mg/L	<0.0400	
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.00160	
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		14.5	J

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-208 Solid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	<2.96	
	Barium	100[a]	mg/L	2.70	
	Cadmium	1.0[a]	mg/L	0.82	
	Chromium	5.0[a]	mg/L	63.7	J
	Lead	5.0[a]	mg/L	4.0	U
	Selenium	1.0[a]	mg/L	3.8	U
	Silver	5.0[a]	mg/L	<1.18	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	1.65	J
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.0130	
EPA 600 335.2	Cyanide	Detect[d]	mg/L	23.1	J
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		14.1	J

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-209 Solid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	<2.27	
	Barium	100[a]	mg/L	0.65	
	Cadmium	1.0[a]	mg/L	0.12	
	Chromium	5.0[a]	mg/L	24.7	J
	Lead	5.0[a]	mg/L	1.9	
	Selenium	1.0[a]	mg/L	<3.64	
	Silver	5.0[a]	mg/L	<0.91	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	3.20	J
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.013	
EPA 600 335.2	Cyanide	Detect[d]	mg/L	9.93	J
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		13.5	J

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-210 Liquid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	0.236	J
	Barium	100[a]	mg/L	0.526	J
	Cadmium	1.0[a]	mg/L	0.270	
	Chromium	5.0[a]	mg/L	11.8	
	Lead	5.0[a]	mg/L	1.26	J
	Selenium	1.0[a]	mg/L	<0.500	
	Silver	5.0[a]	mg/L	<0.100	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	3.00	J
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.00160	
EPA 600 335.2	Cyanide	Detect[d]	mg/L	0.020	J
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		12.6	J

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

Sample ID X-211 Solid Waste Sample Results Minton Enterprises Site Assessment (4/6/06)					
Method	**Parameter**	**Criteria Level**	**Result Units**	**Results**	
SW-846 3005A, 6010B, Metals By ICP (TOTAL)	Arsenic	5.0[a]	mg/L	<2.45	
	Barium	100[a]	mg/L	8.22	
	Cadmium	1.0[a]	mg/L	0.64	
	Chromium	5.0[a]	mg/L	49.2	
	Lead	5.0[a]	mg/L	5.82	
	Selenium	1.0[a]	mg/L	3.5	U
	Silver	5.0[a]	mg/L	<0.98	
SW-846 7196A	Chromium, Hexavalent	N/A	mg/L	3.32	J
SW-846 7470A (TOTAL)	Mercury	0.02[a]	mg/L	<0.014	
SW-846 9040B	pH	≤2.0 or ≥12.5[c]		9.75	

[a] 40 CFR Parts 261.24 Characteristics of Toxicity

[b] 40 CFR Parts 261.21 Characteristics of Ignitability

[c] 40 CFR Parts 261.22 Characteristics of Corrosivity

[d] 40 CFR Parts 261.23 Characteristics of Reactivity

N/A: Not applicable

J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

R - The result was rejected. The analyte may or may not be present.

APPENDIX D

VALIDATED LABORATORY DATA PACKAGE

(22 Pages)

MEMORANDUM

Date: May 2, 2006

To: Tom Binz, Project Manager, Tetra Tech EM Inc. (Tetra Tech)
Superfund Technical Assessment and Response Team (START) for Region 5

From: Harry Ellis, Chemist, Tetra Tech START for Region 5

Subject: Data Validation for
Minton Enterprises Site
Highland, Illinois
Analytical Technical Direction Document (TDD) No. S05-0603-008
Project TDD No. S05-0603-007

Laboratory: Teklab, Inc. (Teklab), Collinsville, Illinois
Work Order No. 06040149
Total Metals, Hexavalent Chromium, Cyanide, Ignitability, and pH Analyses of 11 Waste Samples

1.0 INTRODUCTION

The Tetra Tech START for Region 5 validated total metals, hexavalent chromium, cyanide, ignitability, and pH analytical data for 11 waste samples collected on April 6, 2006, from the Minton Enterprises site in Highland, Illinois, during a removal site evaluation. Teklab analyzed the samples for total metals using U.S. Environmental Protection Agency (EPA) SW-846 Methods 6010B, 7470A, and 7471A; for hexavalent chromium using EPA SW-846 Method 7196A; for cyanide using EPA SW-846 Methods 9010B and 9014 or EPA Method 335.2; for ignitability using EPA SW-846 Method 1010; and for pH using EPA SW-846 Method 9040B or 9045C. All samples were analyzed for total metals and pH, but only 10 samples were analyzed for hexavalent chromium, 6 samples for cyanide, and 1 sample for ignitability.

The data were validated in general accordance with EPA's "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated October 2004. Inorganic data validation consisted of a review of the following quality control (QC) parameters: holding times, initial and continuing calibrations, blank results, inductively coupled plasma (ICP) interference check sample results, laboratory control sample (LCS) results, duplicate sample results, matrix spike and matrix spike duplicate (MS/MSD) results, and sample result quantitation.

Section 2.0 discusses the results of the inorganic data validation, and Section 3.0 presents an overall assessment of the data. The attachment to this memorandum contains Teklab's summary of analytical results with relevant qualifiers added.

2.0 INORGANIC DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below in terms of the QC parameters reviewed. The data qualifiers below were applied to the sample analytical results where warranted (see the attachment).

- J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.
- U - The analyte was not detected. The reported numerical value is the sample quantitation limit.
- UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.
- R - The result was rejected. The analyte may or may not be present.

2.1 HOLDING TIMES

The samples were received at the laboratory at a temperature of 13.8 °C, well above the QC limit of 4 ± 2 °C for mercury, cyanide, and hexavalent chromium; however, the receipt temperature was below the ambient site temperature, so no qualifications are warranted. The samples were analyzed for metals within the holding time limits of 28 days for mercury and 6 months for the other metals. The other analyses were performed within their various holding time limits.

2.2 INITIAL AND CONTINUING CALIBRATIONS

Initial and continuing calibrations were performed as required by the various methods and all were within QC limits. Five of the pH results were outside the range of the calibration standards (pH 4 to 12). Therefore the pH results for Samples X-202, X-207, X-208, X-209, and X-210 were extrapolated, so these results were flagged "J" to indicate that they are considered estimated.

2.3 BLANK RESULTS

Appropriate blanks, such as initial calibration blanks, continuing calibration blanks, and method blanks, were run during the analyses. Low concentrations of some metals were found in some of the blanks. Similar concentrations of these metals in the associated sample analyses were flagged "U" to indicate that they are probably laboratory artifacts. The affected samples and metals are X-202 (silver), X-203 (cadmium), X-208 (lead and selenium), and X-211 (selenium).

2.4 ICP INTERFERENCE CHECK SAMPLE RESULTS

ICP interference check samples were analyzed as required and all results were within QC limits.

2.5 LCS RESULTS

One or two LCSs were analyzed during each analytical run. The LCS results were within QC limits.

2.6 DUPLICATE SAMPLE RESULTS

Laboratory duplicate samples were analyzed with the ignitability and pH analyses and yielded satisfactory results. The duplicate LCS and MS/MSD analyses for the other analyses yielded acceptable precision results.

2.7 MS/MSD RESULTS

MS/MSD samples were analyzed for the metals, cyanide, and hexavalent chromium analyses. Most of the metal MS/MSD samples yielded acceptable results. For Sample X-203, a liquid waste sample, the chromium recovery could not be determined because the unspiked sample contained more than four times the spike concentration. No qualifications are warranted for this data gap. However, arsenic (72 and 71 percent), barium (48 and 46 percent), and lead (54 and 52 percent) yielded recoveries below the QC limits of 75 to 125 percent. The results for arsenic, barium, and lead in all liquid waste samples were therefore flagged "J" or "UJ," as appropriate, to indicate that they are considered estimated, possibly biased low due to matrix interference. For the MS/MSD analyses on Sample X-209, a solid waste sample, only chromium (61 and 65 percent) yielded recoveries below the QC limits. Results for chromium in all solid samples were therefore flagged "J" to indicate that they are considered estimated, possibly biased low due to apparent matrix interference.

The cyanide MS analysis performed on Sample X-203 yielded a recovery of 124 percent, versus QC limits of 85 to 115 percent. The cyanide MS/MSD analyses performed on Sample X-208 yielded recoveries of 106 and 176 percent, versus QC limits of 80 to 120 percent. All cyanide results were therefore flagged "J" to indicate that they are considered estimated.

MS or, if there was sufficient sample volume, MS/MSD analyses were performed on all samples subjected to the hexavalent chromium analysis. None of the recoveries were within the QC limits of 85 to 115 percent. The unspiked concentration of hexavalent chromium in Sample X-205 was more than four times the spike concentration, so no qualifications were applied. Samples X-208 and X-211 yielded recoveries of 248 and 182 percent, respectively. The hexavalent chromium results for these samples were therefore flagged "J" to indicate that they are considered estimated and may be biased high. Samples X-201, X-209, and X-210 yielded recoveries of 60, 2, and 10 percent, respectively. Samples X-202 and X-204 yielded zero recovery. The hexavalent chromium results for these five samples were therefore flagged "J" to indicate that they are considered estimated and may be biased low. Samples X-203 and X-206 also yielded zero recoveries, but hexavalent chromium was not detected in the unspiked samples; therefore, the hexavalent chromium results for Samples X-203 and X-206 were flagged "R" to indicate that they are rejected, and hexavalent chromium may or may not be present.

2.8 SAMPLE RESULT QUANTITATION

One or two results were verified for each analytical run and all were found to be correct. Many of the metal results come from re-analyses performed at one or more dilutions. Most of these re-analyses were done to minimize interference from other metals in the analysis, but some, especially for hexavalent chromium, were done to bring high concentration results within calibration limits. The diluted samples were reanalyzed successfully, and no data qualifications are warranted.

3.0 OVERALL ASSESSMENT OF DATA

Overall, almost all of the analytical data generated by Teklab are acceptable for use as qualified. The only rejected results are the nondetected hexavalent chromium results for Samples X-203 and X-206. These results were rejected because of zero percent spike recoveries from all three portions used for MS analyses. This sort of irregularity is commonly encountered during hexavalent chromium analyses and may be a result of matrix interference rather than laboratory error.

ATTACHMENT

TEKLAB SUMMARY OF ANALYTICAL RESULTS

(11 Sheets)

CHAIN OF CUSTODY

pg. 1 of 2 Work Order # 0603007

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: Tetra Tech EM, INC
Address: 1116 South towne SQUARE
City / State / Zip: St. Louis MO 63128
Contact: TOM BINZ Phone: ~~314-845-2827~~ 314-892-6322 ext. 25
E-Mail: Thomas.Binz@TTEMI.com Fax: 314-892-6332

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 13.8 °C
Preserved in: ☐ Lab ☐ Field
Lab Notes: 314-892-6322 ext. 25 Call if limited sample
Comments:

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☐ No
- *Are these samples known to be hazardous?* ☐ Yes ☐ No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. ☐ Yes ☐ No

Project Name / Number: Minton Enterprises
Sample Collector's Name: TOM Binz / Doug Ball

Results Requested: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other____ ☐ 3 Day (50% Surcharge)

Billing Instructions:

Indicate Analysis Requested methods: RCRA 8; TOTAL 8; CN Liquid – E335.3; CN total – SW9014; Hex Chrome Liq – SW7196A; Hex Chrom solid – SW7196A; ING – SW1010; Ph solid – SW9045C; Ph Liquid – SW9040B

Lab Use Only	Sample Identification	Date/Time Sampled	UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	Other	Water	Drinking Water	Soil	Sludge	Sp. Waste	RCRA 8	TOTAL 8	CN Liquid	CN total	Hex Chrome Liq	Hex Chrom solid	ING	Ph solid	Ph Liquid				
	X-201	1315	3											X		X	X	X	X	X	X	X		X				
	X-202	1347	3											X		X	X	X	X	X				X				
	X-203	1405	3											X		X	X	X	X	X				X				
	X-204	1350	1											X		X				X				X				
	X-205	1400	2											X		X				X				X				
	X-206	1415	1											X		X				X				X				
	X-207	1430	1											X		X								X				
	X-208	1450	1											X		X	X	X		X				X				
	X-209	1455	1											X		X	X		X		X		X					
	X-210	1500	1											X		X		X		X				X				

Relinquished By	Date / Time	Received By	Date / Time
Thomas G Binz	04/06/06 1625	Nicole M. Potillo	4/6/06 16:30

The individual signing this agreement on behalf of client acknowled[ges t]hat he/she has read and understands the terms [and] conditions of this agreement, on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW – LAB PINK – SAMPLER'S COPY

CHAIN OF CUSTODY

pg. 2 of 2 Work Order # 606407

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: Tetra Tech EM, Inc
Address: 11116 South Towne Square
City / State / Zip: St. Louis MO 63123
Contact: Tom Binz Phone: 314-892-6322 ext 25
E-Mail: Thomas.Binz@TTEMI.com Fax:

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 13.8 °C
Preserved in: ☐ Lab ☒ Field
Lab Notes:

Comments: SW-7196A 9045C

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☐ No
- Are these samples known to be hazardous? ☐ Yes ☐ No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. ☐ Yes ☐ No

Project Name / Number: Minton FAD
Sample Collector's Name: Tom Binz / D. Bell

Results Requested: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other_____ ☐ 3 Day (50% Surcharge)
Billing Instructions:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO_3	NaOH	H_2SO_4	HCL	MeOH	$NaHSO_4$	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUESTED: Rush 8	Hex Chr.	pH
	X-211	1350	1													X	X	X

Relinquished By	Date / Time	Received By	Date / Time
Thomas Binz	04/06/06 1625	Nicole M. Pitts	4/6/06 1630

The individual signing this agreement on behalf of client acknowledges that he/she has read and understands the terms and conditions of this agreement, on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW – LAB PINK – SAMPLER'S COPY

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

April 21, 2006

Jodi McCarty
Tetra Tech Em, Inc.
1 South Wacker Drive Suite 3700
Chicago, IL 60606
TEL: (312) 201-7482
FAX: (312) 938-0118

ACCREDITED IN ACCORDANCE WITH nelac
NELAP Accredited #100226

RE: Minton Enterprises

OrderNo. 06040149

Dear Jodi McCarty:

TEKLAB, INC received 11 samples on 4/6/2006 4:30:00 PM for the analysis presented in the following report. A list of report contents can be found on the following page.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest that have been tested. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted in the Case Narrative. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Heather A. Barnes

Heather A. Barnes
Project Manager
618-344-1004 ex.20

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: Tetra Tech Em, Inc.
Project: Minton Enterprises
LabOrder: 06040149
Report Date: April 21, 2006

REPORT CONTENTS

This reporting package includes the following:

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: Tetra Tech Em, Inc.
Project: Minton Enterprises
LabOrder: 06040149
Report Date: April 21, 2006

CASE NARRATIVE

Cooler Receipt Tem 13.8 °C

Qualifiers		
DF - Dilution Factor	**B** - Analyte detected in the associated Method Blank	**E** - Value above quantitation range
RL - Reporting Limit	**J** - Analyte detected below reporting limits	**H** - Holding time exceeded
ND - Not Detected at the Reporting Limit	**R** - RPD outside accepted recovery limits	**D** - Diluted out of sample
Surr - Surrogate Standard added by lab	**S** - Spike Recovery outside accepted recovery limits	**MI** - Matrix interference
TNTC - Too numerous to count	**X** - Value exceeds Maximum Contaminant Level	**DNI** Did Not Ignite
IDPH - Illinois Department of Public Health	**NELAP** - IL ELAP and NELAP Accredited Field of Testing	

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
Client Project: Minton Enterprises
WorkOrder: 06040149
Client Sample ID: X-201
Lab ID: 06040149-001
Collection Date: 4/6/2006 1:15:00 PM
Report Date: 21-Apr-06
Matrix: LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 335.2									
Cyanide	NELAP	0.003	0.007		0.024	mg/L	1	4/11/2006	CCF
SW-846 1010									
Ignitability, Closed Cup	NELAP	0	60		> 200	°F	1	4/9/2006	MLD
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0450	0.125		0.248	mg/L	1	4/17/2006 1:30:31 PM	CRK
Barium	NELAP	0.0120	0.0250		2.44	mg/L	1	4/17/2006 1:30:31 PM	CRK
Cadmium	NELAP	0.0030	0.0200	J	0.018	mg/L	2	4/18/2006 1:10:07 PM	SAM
Chromium	NELAP	0.0400	0.100		0.473	mg/L	2	4/18/2006 1:10:07 PM	SAM
Lead	NELAP	0.0400	0.200		0.347	mg/L	1	4/17/2006 1:30:31 PM	CRK
Selenium	NELAP	0.220	0.500		< 0.500	mg/L	2	4/18/2006 1:10:07 PM	SAM
Silver	NELAP	0.0320	0.100		< 0.100	mg/L	2	4/18/2006 1:10:07 PM	SAM
SW-846 7196A									
Chromium, Hexavalent	NELAP	0.800	1.00	S	4.80	mg/L	200	4/7/2006 12:25:00 PM	NLF
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00041	0.00160		< 0.00160	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00		10.5		1	4/7/2006 10:10:00 AM	JDH

Sample Narrative

SW-846 7196A

Matix interference present in sample, matrix spike did not recover with in acceptable limits.

SW-846 3005A, 6010B, Metals by ICP (Total)

Cd, Se, Ag - Elevated reporting limit due to matrix interference.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
Client Project: Minton Enterprises
WorkOrder: 06040149
Client Sample ID: X-202
Lab ID: 06040149-002
Collection Date: 4/6/2006 1:47:00 PM
Report Date: 21-Apr-06
Matrix: LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 335.2									
Cyanide	NELAP	0.003	0.007		0.137	mg/L	1	4/11/2006	CCF
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0450	0.125		< 0.125	mg/L	1	4/17/2006 1:36:20 PM	CRK
Barium	NELAP	0.0120	0.0250		1.74	mg/L	1	4/17/2006 1:36:20 PM	CRK
Cadmium	NELAP	0.0075	0.0500		0.110	mg/L	5	4/18/2006 1:38:33 PM	SAM
Chromium	NELAP	0.100	0.250		11.3	mg/L	5	4/18/2006 1:38:33 PM	SAM
Lead	NELAP	0.0400	0.200		0.899	mg/L	1	4/17/2006 1:36:20 PM	CRK
Selenium	NELAP	0.550	1.25		< 1.25	mg/L	5	4/18/2006 1:38:33 PM	SAM
Silver	NELAP	0.0800	0.250	J	0.12	mg/L	5	4/18/2006 1:38:33 PM	SAM
SW-846 7196A									
Chromium, Hexavalent	NELAP	0.200	0.250	S	1.50	mg/L	50	4/7/2006 12:25:00 PM	NLF
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00020	0.00080		< 0.00080	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00		1.15		1	4/7/2006 10:13:00 AM	JDH

Sample Narrative
SW-846 7196A
Matrix interference present in sample, matrix spike did not recover.
SW-846 3005A, 6010B, Metals by ICP (Total)
Se, Ag - elevated reporting limit due to matrix interference.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
Client Project: Minton Enterprises
WorkOrder: 06040149
Client Sample ID: X-203
Lab ID: 06040149-003
Collection Date: 4/6/2006 2:05:00 PM
Report Date: 21-Apr-06
Matrix: LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 335.2									
Cyanide	NELAP	0.004	0.009	S	0.024	mg/L	1	4/11/2006	CCF
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0090	0.0250	S	< 0.0250	mg/L	1	4/17/2006 1:42:04 PM	CRK
Barium	NELAP	0.0024	0.0050	S	< 0.0050	mg/L	1	4/17/2006 1:42:04 PM	CRK
Cadmium	NELAP	0.0006	0.0040	J	0.0010	mg/L	2	4/19/2006 1:33:39 PM	SAM
Chromium	NELAP	0.0080	0.0200	S	1.19	mg/L	2	4/19/2006 1:33:39 PM	SAM
Lead	NELAP	0.0080	0.0400	S	< 0.0400	mg/L	1	4/17/2006 1:42:04 PM	CRK
Selenium	NELAP	0.0440	0.100		< 0.100	mg/L	2	4/19/2006 1:33:39 PM	SAM
Silver	NELAP	0.0064	0.0200		< 0.0200	mg/L	2	4/19/2006 1:33:39 PM	SAM
SW-846 7196A									
Chromium, Hexavalent	NELAP	0.004	0.005	S	< 0.005	mg/L	1	4/7/2006 12:25:00 PM	NLF
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00005	0.00020		0.00044	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00		9.24		1	4/7/2006 10:15:00 AM	JDH

Sample Narrative

SW-846 7196A

Matrix interference present in sample, matrix spike/ matrix spike duplicat did not recover.

EPA 600 335.2

Matrix spike did not recover because of sample composition.

Insufficient sample to run MSD.

SW-846 3005A, 6010B, Metals by ICP (Total)

Cr - Sample concentration was greater than 5 times the spike concentration.

Cd, Se, Ag - Elevated reporting limit due to matrix interference.

As, Ba, Pb - Matrix interference present in sample; verified by bench spike.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
Client Project: Minton Enterprises
WorkOrder: 06040149
Client Sample ID: X-204
Lab ID: 06040149-004
Collection Date: 4/6/2006 1:50:00 PM
Report Date: 21-Apr-06
Matrix: LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0180	0.0500	J	0.030	mg/L	1	4/17/2006 1:59:51 PM	CRK
Barium	NELAP	0.0048	0.0100		0.126	mg/L	1	4/17/2006 1:59:51 PM	CRK
Cadmium	NELAP	0.0012	0.0080		< 0.0080	mg/L	2	4/18/2006 1:44:19 PM	SAM
Chromium	NELAP	0.0160	0.0400		0.0976	mg/L	2	4/18/2006 1:44:19 PM	SAM
Lead	NELAP	0.0160	0.0800		0.187	mg/L	1	4/17/2006 1:59:51 PM	CRK
Selenium	NELAP	0.0880	0.200		< 0.200	mg/L	2	4/18/2006 1:44:19 PM	SAM
Silver	NELAP	0.0128	0.0400		< 0.0400	mg/L	2	4/18/2006 1:44:19 PM	SAM
SW-846 7196A									
Chromium, Hexavalent	NELAP	2.50	5.00	JS	2.8	mg/Kg	25	4/13/2006 8:30:00 PM	NLF
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00041	0.00160		< 0.00160	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00		11.6		1	4/7/2006 10:20:00 AM	JDH

Sample Narrative

SW-846 7196A

Sample required re-analysis out of hold time.

MS/MSD: Matrix interference present in sample. Matrix spike/ matrix spike duplicate did not recover.

SW-846 3005A, 6010B, Metals by ICP (Total)

Cd, Se, Ag - Elevated reporting limit due to matrix interference.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
Client Project: Minton Enterprises
WorkOrder: 06040149
Client Sample ID: X-205
Lab ID: 06040149-005
Collection Date: 4/6/2006 2:00:00 PM
Report Date: 21-Apr-06
Matrix: LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0450	0.125		< 0.125	mg/L	1	4/17/2006 2:05:39 PM	CRK
Barium	NELAP	0.0120	0.0250		0.0430	mg/L	1	4/17/2006 2:05:39 PM	CRK
Cadmium	NELAP	0.0030	0.0200		0.0970	mg/L	2	4/18/2006 2:05:00 PM	SAM
Chromium	NELAP	0.400	1.00		1990	mg/L	20	4/19/2006 1:08:49 PM	SAM
Lead	NELAP	0.0800	0.400		< 0.400	mg/L	2	4/18/2006 2:05:00 PM	SAM
Selenium	NELAP	0.220	0.500		< 0.500	mg/L	2	4/18/2006 2:05:00 PM	SAM
Silver	NELAP	0.0320	0.100	J	0.075	mg/L	2	4/18/2006 2:05:00 PM	SAM
SW-846 7196A									
Chromium, Hexavalent	NELAP	16.0	20.0	S	1580	mg/L	4000	4/7/2006 12:25:00 PM	NLF
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00020	0.00080		< 0.00080	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00		4.15		1	4/7/2006 10:24:00 AM	JDH

Sample Narrative
SW-846 7196A
Matix interference present in sample, matrix spike did not recover with in acceptable limits.
SW-846 3005A, 6010B, Metals by ICP (Total)
Pb, Se, Ag - Elevated reporting limit due to matrix interference.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc. **Client Project:** Minton Enterprises
WorkOrder: 06040149 **Client Sample ID:** X-206
Lab ID: *06040149-006* **Collection Date:** 4/6/2006 2:15:00 PM
Report Date: 21-Apr-06 **Matrix:** LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0450	0.125		0.129	mg/L	1	4/17/2006 2:29:55 PM	CRK
Barium	NELAP	0.120	0.250		232	mg/L	10	4/17/2006 2:50:56 PM	CRK
Cadmium	NELAP	0.0030	0.0200		0.0220	mg/L	2	4/19/2006 1:02:46 PM	SAM
Chromium	NELAP	0.0400	0.100		0.255	mg/L	2	4/19/2006 1:02:46 PM	SAM
Lead	NELAP	0.0400	0.200		1.02	mg/L	1	4/17/2006 2:29:55 PM	CRK
Selenium	NELAP	0.220	0.500		< 0.500	mg/L	2	4/18/2006 2:10:47 PM	SAM
Silver	NELAP	0.0320	0.100		< 0.100	mg/L	2	4/18/2006 2:10:47 PM	SAM
SW-846 7196A									
Chromium, Hexavalent	NELAP	5.00	10.0	S	< 10.0	mg/Kg	50	4/13/2006 8:30:00 PM	NLF
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00041	0.00160		< 0.00160	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00		7.95		1	4/7/2006 10:26:00 AM	JDH

Sample Narrative
SW-846 7196A
Sample required re-analysis out of hold time.
Elevated reporting limit due to matrix interference.
MS: Matrix interference present in sample. Matrix spike did not recover within acceptable limits.
SW-846 3005A, 6010B, Metals by ICP (Total)
Se, Ag - Elevated reporting limit due to matrix interference.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
Client Project: Minton Enterprises
WorkOrder: 06040149
Client Sample ID: X-207
Lab ID: 06040149-007
Collection Date: 4/6/2006 2:30:00 PM
Report Date: 21-Apr-06
Matrix: LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0180	0.0500		0.125	mg/L	1	4/17/2006 2:33:50 PM	CRK
Barium	NELAP	0.0048	0.0100		0.0248	mg/L	1	4/17/2006 2:33:50 PM	CRK
Cadmium	NELAP	0.0012	0.0080		< 0.0080	mg/L	2	4/19/2006 2:20:16 PM	SAM
Chromium	NELAP	0.0160	0.0400	J	0.036	mg/L	2	4/19/2006 2:20:16 PM	SAM
Lead	NELAP	0.0160	0.0800		< 0.0800	mg/L	1	4/17/2006 2:33:50 PM	CRK
Selenium	NELAP	0.0880	0.200		< 0.200	mg/L	2	4/19/2006 2:20:16 PM	SAM
Silver	NELAP	0.0128	0.0400		< 0.0400	mg/L	2	4/19/2006 2:20:16 PM	SAM
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00041	0.00160		< 0.00160	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00	E	14.5		1	4/7/2006 10:28:00 AM	JDH

Sample Narrative
SW-846 9040B
Results have less certainty, because sample value exceeds upper quantitation limits.
SW-846 3005A, 6010B, Metals by ICP (Total)
Cd, Cr, Se, Ag - Elevated reporting limit due to matrix interference.

TEKLAB. INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE. ILLINOIS 6223-

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc. **Client Project:** Minton Enterprises
WorkOrder: 06040149 **Client Sample ID:** X-208
Lab ID: 06040149-008 **Collection Date:** 4/6/2006 2:50:00 PM
Report Date: 21-Apr-06 **Matrix:** SOLID

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
ASTM D2974									
Percent Moisture		0.1	0.1		27.2	%	1	4/10/2006	CDH
STANDARD METHODS 18TH ED. 2540 G									
Total Solids		0.1	0.1		72.8	%	1	4/10/2006	CDH
SW-846 3050B, 6010B, METALS BY ICP									
Arsenic	NELAP	1.48	2.96		< 2.96	mg/Kg-dry	1	4/12/2006 5:02:14 PM	CRK
Barium	NELAP	0.30	0.59		2.70	mg/Kg-dry	1	4/13/2006 11:39:42 AM	JMW
Cadmium	NELAP	0.12	0.24		0.82	mg/Kg-dry	1	4/13/2006 11:39:42 AM	JMW
Chromium	NELAP	0.59	1.18		63.7	mg/Kg-dry	1	4/12/2006 5:02:14 PM	CRK
Lead	NELAP	2.37	4.74	J	4.0	mg/Kg-dry	1	4/13/2006 11:39:42 AM	JMW
Selenium	NELAP	2.37	4.74	J	3.8	mg/Kg-dry	1	4/13/2006 11:39:42 AM	JMW
Silver	NELAP	0.59	1.18		< 1.18	mg/Kg-dry	1	4/13/2006 11:39:42 AM	JMW
SW-846 7196A									
Chromium, Hexavalent	NELAP	0.687	1.37	S	1.65	mg/Kg-dry	5	4/13/2006 8:30:00 PM	NLF
SW-846 7471A									
Mercury	NELAP	0.003	0.013		< 0.013	mg/Kg-dry	1	4/11/2006	CRK
SW-846 9010B, 9014									
Cyanide	NELAP	1.00	3.32	S	23.1	mg/Kg-dry	5	4/11/2006	CCF
SW-846 9045C									
pH (1:1)	NELAP	0	1.00	E	14.1		1	4/7/2006 1:03:00 PM	JDH

Sample Narrative
SW-846 7196A
Sample required re-analysis out of hold time.
MS: Matrix interference present in sample. Matrix spike did not recover within acceptable limits.
SW-846 9010B, 9014
MSD: Matrix spike did not recover due to hot spots in sample composition.
SW-846 9045C
Results have less certainty, because sample value exceeds upper quantitation limits.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
WorkOrder: 06040149
Lab ID: 06040149-009
Report Date: 21-Apr-06

Client Project: Minton Enterprises
Client Sample ID: X-209
Collection Date: 4/6/2006 2:55:00 PM
Matrix: SOLID

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
ASTM D2974									
Percent Moisture		0.1	0.1		25.0	%	1	4/10/2006	CDH
STANDARD METHODS 18TH ED. 2540 G									
Total Solids		0.1	0.1		75.0	%	1	4/10/2006	CDH
SW-846 3050B, 6010B, METALS BY ICP									
Arsenic	NELAP	1.14	2.27		< 2.27	mg/Kg-dry	1	4/12/2006 5:04:52 PM	CRK
Barium	NELAP	0.23	0.45		0.65	mg/Kg-dry	1	4/13/2006 3:10:19 PM	SAM
Cadmium	NELAP	0.09	0.18	J	0.12	mg/Kg-dry	1	4/13/2006 3:10:19 PM	SAM
Chromium	NELAP	0.45	0.91	S	24.7	mg/Kg-dry	1	4/13/2006 11:45:48 AM	JMW
Lead	NELAP	1.82	3.64	J	1.9	mg/Kg-dry	1	4/13/2006 3:10:19 PM	SAM
Selenium	NELAP	1.82	3.64		< 3.64	mg/Kg-dry	1	4/13/2006 3:10:19 PM	SAM
Silver	NELAP	0.45	0.91		< 0.91	mg/Kg-dry	1	4/13/2006 11:45:48 AM	JMW
SW-846 7196A									
Chromium, Hexavalent	NELAP	1.33	2.67	S	3.20	mg/Kg-dry	10	4/13/2006 8:30:00 PM	NLF
SW-846 7471A									
Mercury	NELAP	0.003	0.013		< 0.013	mg/Kg-dry	1	4/11/2006	CRK
SW-846 9010B, 9014									
Cyanide	NELAP	0.20	0.66		9.93	mg/Kg-dry	1	4/11/2006	CCF
SW-846 9045C									
pH (1:1)	NELAP	0	1.00		13.5		1	4/7/2006 1:25:00 PM	JDH

Sample Narrative

SW-846 7196A

Sample required re-analysis out of hold time.

MS: Matrix interference present in sample. Matrix spike did not recover within acceptable limits.

SW-846 3050B, 6010B, Metals by ICP

Cr - Matrix interference present in sample; verified by bench spike.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
WorkOrder: 06040149
Lab ID: 06040149-010
Report Date: 21-Apr-06

Client Project: Minton Enterprises
Client Sample ID: X-210
Collection Date: 4/6/2006 3:00:00 PM
Matrix: LIQUID WASTE

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 335.2									
Cyanide	NELAP	0.004	0.009		0.020	mg/L	1	4/11/2006	CCF
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Arsenic	NELAP	0.0450	0.125		0.236	mg/L	1	4/17/2006 2:37:48 PM	CRK
Barium	NELAP	0.0120	0.0250		0.526	mg/L	1	4/17/2006 2:37:48 PM	CRK
Cadmium	NELAP	0.0030	0.0200		0.270	mg/L	2	4/19/2006 1:27:23 PM	SAM
Chromium	NELAP	0.0400	0.100		11.8	mg/L	2	4/19/2006 1:27:23 PM	SAM
Lead	NELAP	0.0400	0.200		1.26	mg/L	1	4/17/2006 2:37:48 PM	CRK
Selenium	NELAP	0.220	0.500		< 0.500	mg/L	2	4/19/2006 1:27:23 PM	SAM
Silver	NELAP	0.0320	0.100		< 0.100	mg/L	2	4/19/2006 1:27:23 PM	SAM
SW-846 7196A									
Chromium, Hexavalent	NELAP	1.00	2.00	S	3.00	mg/Kg	10	4/13/2006 8:30:00 PM	NLF
SW-846 7470A (TOTAL)									
Mercury	NELAP	0.00041	0.00160		< 0.00160	mg/L	1	4/12/2006	CRK
SW-846 9040B									
pH	NELAP	0	1.00		12.6		1	4/7/2006 10:50:00 AM	JDH

Sample Narrative
SW-846 7196A
Sample required re-analysis out of hold time.
MS: Matrix interference present in sample. Matrix spike did not recover within acceptable limits.
SW-846 3005A, 6010B, Metals by ICP (Total)
Se, Ag -Elevated reporting limit due to matrix interference.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Laboratory Results

CLIENT: Tetra Tech Em, Inc.
Client Project: Minton Enterprises
WorkOrder: 06040149
Client Sample ID: X-211
Lab ID: 06040149-011
Collection Date: 4/6/2006 1:50:00 PM
Report Date: 21-Apr-06
Matrix: SOLID

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
ASTM D2974									
Percent Moisture		0.1	0.1		30.8	%	1	4/10/2006	CDH
STANDARD METHODS 18TH ED. 2540 G									
Total Solids		0.1	0.1		69.2	%	1	4/10/2006	CDH
SW-846 3050B, 6010B, METALS BY ICP									
Arsenic	NELAP	1.23	2.45		< 2.45	mg/Kg-dry	1	4/12/2006 5:13:07 PM	CRK
Barium	NELAP	0.25	0.49		8.22	mg/Kg-dry	1	4/13/2006 12:18:00 PM	JMW
Cadmium	NELAP	0.10	0.20		0.64	mg/Kg-dry	1	4/13/2006 12:18:00 PM	JMW
Chromium	NELAP	0.49	0.98		49.2	mg/Kg-dry	1	4/12/2006 5:13:07 PM	CRK
Lead	NELAP	1.96	3.92		5.82	mg/Kg-dry	1	4/13/2006 12:18:00 PM	JMW
Selenium	NELAP	1.96	3.92	J	3.5	mg/Kg-dry	1	4/13/2006 12:18:00 PM	JMW
Silver	NELAP	0.49	0.98		< 0.98	mg/Kg-dry	1	4/13/2006 12:18:00 PM	JMW
SW-846 7196A									
Chromium, Hexavalent	NELAP	1.45	2.89	S	3.32	mg/Kg-dry	10	4/13/2006 8:30:00 PM	NLF
SW-846 7471A									
Mercury	NELAP	0.004	0.014		< 0.014	mg/Kg-dry	1	4/11/2006	CRK
SW-846 9045C									
pH (1:1)	NELAP	0	1.00		9.75		1	4/7/2006 1:06:00 PM	JDH

Sample Narrative
SW-846 7196A
Sample required re-analysis out of hold time.
MS: Matrix interference present in sample. Matrix spike did not recover within acceptable limits.